ENVIRONMENTAL OVERVIEW MEMORANDUM

Date: December 3, 2004

To: I-15 Project Management Team

From: Alex Hildebrand

Introduction

The purpose of this Environmental Overview is to develop a general description of the environmental baseline for the I-15 Corridor Plan, Kaysville to Ogden. This will be used to evaluate environmental issues within the study area and to identify environmental concerns associated with action alternatives. Should an action alternative be implemented in the future, this overview will also be the basis for developing a more comprehensive database of existing environmental conditions for comparison of the project alternatives to be developed, and for developing a cumulative and secondary impacts analysis. This report summarizes information that was gathered at this preliminary project phase and provides an overview that may be used to determine the most likely significant impacts related to various alternatives. Figure 1 shows the study area for this project. Figures 2 through 6 show the locations of various environmental resources, per the legend on the figure. The environmental resources are discussed below.

Study Area Boundaries

The study area is located approximately 30 miles north of Salt Lake City, Utah as shown in Figure 1. Hill Air Force Base is located in the eastern central portion of the study area. The Wasatch Mountains border the study area to the east, and the Great Salt Lake borders the study are to the west. Several small cities and towns are located in the study area, with most land being incorporated.

The topics in this memorandum include:

1. Land Use
2. Air Quality
3. Cultural and Archaeological Resources
4. Prime, Unique, and Locally Important Farmland
5. Hazardous Materials
6. Noise
7. Recreation Resources
8. Section 4(f) Resources
9. Section 6(f) Resources
10. Socioeconomics
11. Water Resources and Floodplains
12. Wetlands
13. Wildlife, Threatened, and Endangered Species

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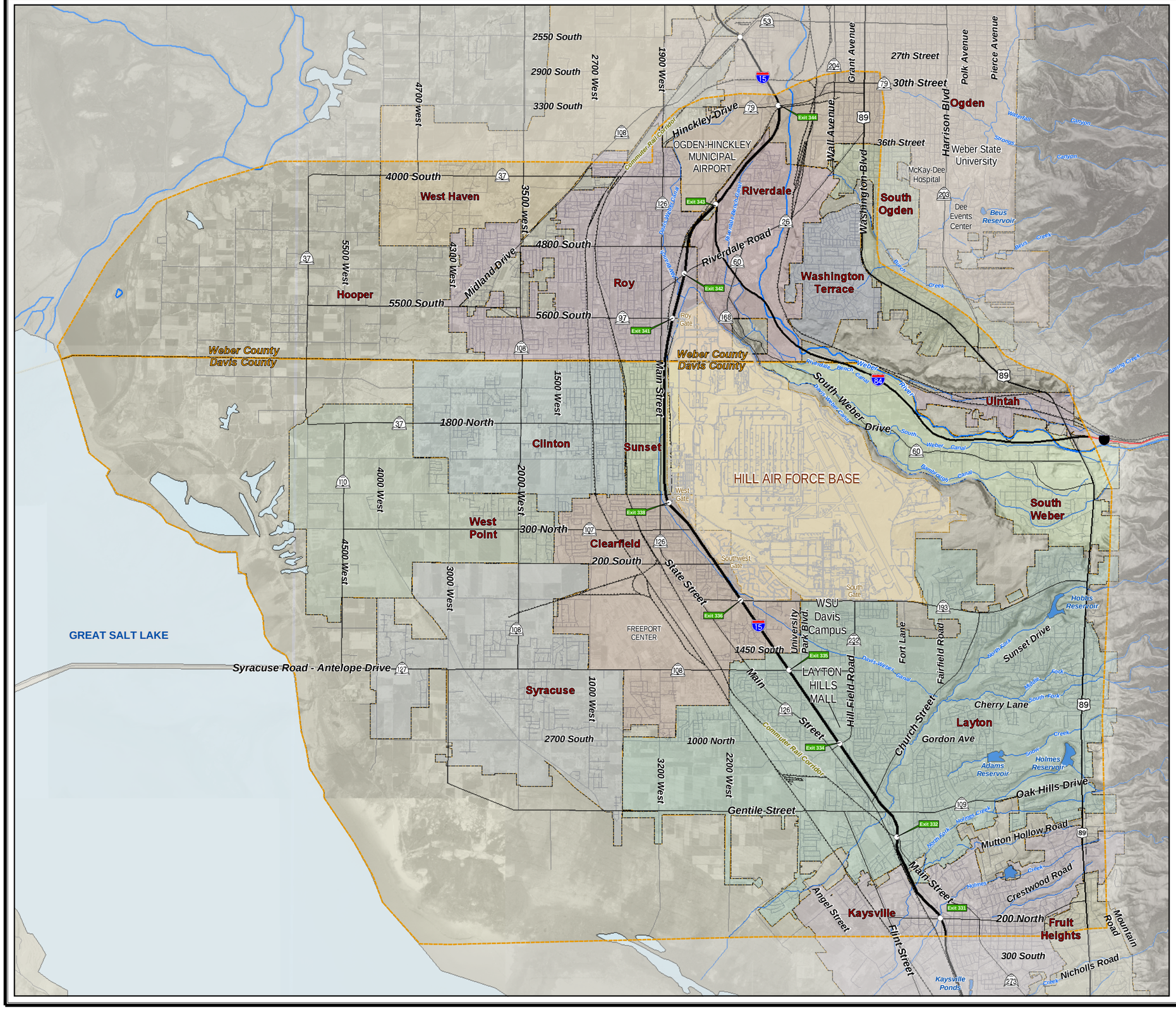
Figure 1. Study Area Map



1. Land Use

Figure 2 depicts the land uses for the study area. The study area is located approximately 30 miles north of Salt Lake City, Utah. Hill Air Force Base is located in the eastern central portion of the study area. The Wasatch Mountains border the study area to the east, and the Great Salt Lake borders the study are to the west. Several small cities and towns are located in the study area, with most land being incorporated. The areas adjacent to I-15 are mainly commercial in development, with increasing residential land uses extending beyond. Open land exists at the western portion of the study area, with increasing residential development occurring. To the east of I-15, while some land still lies undeveloped, most is developed for residential and commercial uses. The study area includes a satellite campus of Weber State University, in Layton, and several retail shopping centers.

Major north-south transportation facilities include I-15, US Highway 89, railroad lines, and three state routes. Major east-west transportation facilities include I-84, which ends at I-15, and four state routes. Ogden-Hinckley Municipal Airport is located in the north-central portion of the study area.

More information pertaining to land use can be found the Community Characteristics Memo.

2. Air Quality

The Clean Air Act requires that the U.S. Environmental Protection Agency (EPA) set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. Pollutants included in the NAAQS are carbon monoxide (CO), nitrogen dioxide (NO_2), ozone, lead, particulate matter smaller than ten microns (PM_{10}), particulate matter smaller than 2.5 microns ($PM_{2.5}$) and sulfur dioxide (SO_2). The State of Utah has adopted measures necessary for attaining and maintaining the NAAQS. These measures are enforced through the Utah Air Conservation Rules and the State Implementation Plan (SIP).

The study area is located in Davis and Weber Counties. Davis County's compliance status, as determined by the EPA, is as a maintenance area for ozone and an attainment area for all other pollutants. The City of Ogden, which is located in Weber County, but is not within the project study area, is a maintenance area for CO and a non-attainment area for PM_{10}. The measures for attaining and maintaining compliance with NAAQS are detailed in the SIP of each area.

The Transportation Equity Act and the Clean Air Act require that transportation projects located within nonattainment or maintenance areas for one or more transportation related pollutants (CO, PM, ozone, and NO_x) demonstrate conformity between transportation plans and air quality plans (SIPs). A conforming transportation plan is one that has been analyzed for emissions of controlled air pollutants and found to satisfy the emission level limits established in the SIP. There are roughly 100 projects located within the study area and included in the Wasatch Front Urban Area Long Range Transportation Plan. The WFRC determined that the Long Range Plan and the Transportation Improvement Plan (TIP) conform to the SIP for all pollutants. If additional transportation components were added to the Long Range Plan, the air conformity would need to be updated.

3. Cultural and Archaeological Resources

Cultural and Archaeological Resources include historic properties and structures, and archaeological sites that may be important in defining a certain time in history, architectural style, specific historic events, or native groups of peoples. Figure 3 shows identified historical resources.

A search of the National Register of Historic Properties (NRHP) database and other recent environmental impact studies in the area revealed that approximately 10 structures from within the study area are on the NRHP and approximately 16 other structures are potentially eligible.

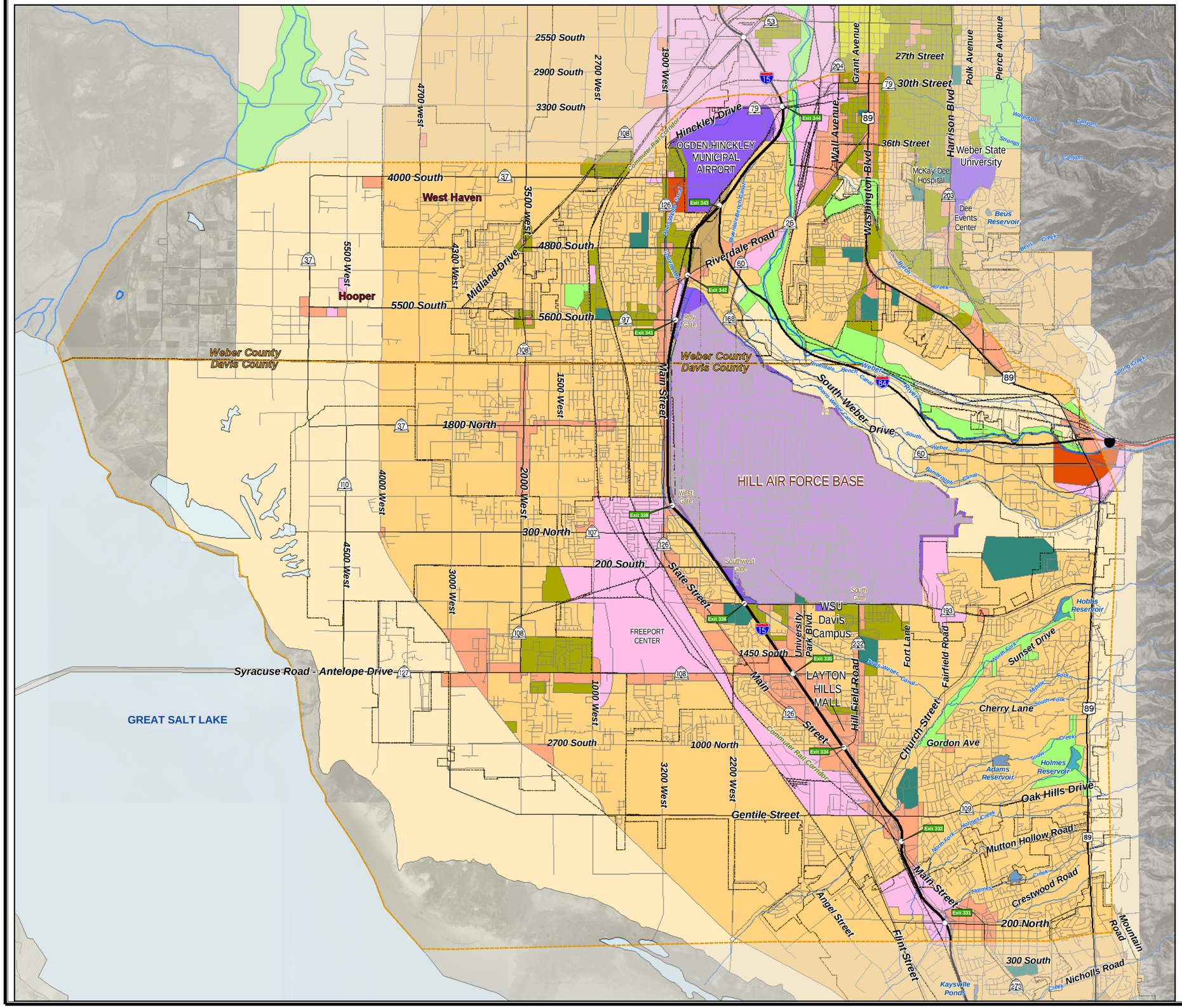


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Figure 2. Landuse

- Rural Residential
- Single Family Residential
- Multi Family Residential
- Low Intensity Commercial
- High Intensity Commercial
- Mixed Use Commercial
- Industrial
- Mining
- Open Space
- Public Facilities
- Institutional

Landuse classification was produced by Wasatch Front Regional Council, 2003.

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Figure 3. Agricultural Protection Zone and Historical Resource Locations

Agricultural Protection Zone

Identified Historical Resources

ID	NAME	ADDRESS LOCATION	CITY	DATE
0	Adams, Joseph, House	300 N. Adamswood Rd.	Layton	2/17/1978
1	Farmer's Union Building	State and W. Gentile Sts.	Layton	11/30/1978
2	Layton, George W., House	145 W. Gentile St.	Layton	7/23/1982
3	Layton, John Henry, House	683 W. Gentile St.	West Layton	2/11/1982
4	Community Building	128 S Main	Layton	
5	Community Building	137 S Main	Layton	
6	Community Building	164 S Main	Layton	
7	Community Building	166 S Main	Layton	
8	Community Building	200 S Main	Layton	
9	Residence	255 S Main	Layton	
10	Residence	265 S Main	Layton	
11	Residence	253 S Main	Layton	
12	Residence	281 S Main	Layton	
13	Residence	287 S Main	Layton	
14	Residence	74 South Main	Layton	
15	Residence	55 W Sills Lane	Layton	
16	Residence	71 W Sills Lane	Layton	
17	Community Building	25th and Wall avenue	Ogden	
18	Community Building	2911 Pacific Ave	Ogden	
19	Residence	304 E 700 S	Ogden	
20	Stewart, LeConte, House	172 W. 100 South	Kaysville	6/28/1996
21	Blood, Henry, House	95 S. 300 West	Kaysville	4/29/1980
22	Barnes, John R., House	10 S. 100 West	Kaysville	7/23/1982
23	Barnes, John George M	42 W. Center St.	Kaysville	2/11/1982

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When analyzing impacts to cultural and archaeological resources, a complete survey of the area potentially impacted by an action alternative would be completed and coordination with SHPO would occur to determine impacts and identify mitigation measures.

Previous archaeological surveys may exist for the study area. The process by which previous archaeological surveys are identified and results obtained, however, has certain restrictions and requirements that make such an overview study infeasible at this time. Archaeological files are not open to public review. Only professional archaeologists are able to research such files. A representative from the office of the Utah State Historic Preservation Officer (SHPO) performs the query alongside the professional archaeologist for a nominal charge. Since sites are no longer recorded on paper maps, a GIS database search is performed for the location of archaeological sites, also for a nominal charge.

4. Prime, Unique, and Locally Important Farmland

Prime, unique, and locally important farmlands are identified in order to mitigate for potential impacts to these specific types of agricultural lands.

According to Section 658.2 of the Farmland Protection Policy Act (FPPA), the project study area that is within incorporated city limits and which is designated for urban uses, is exempt from the FPPA. Section 658.2 of the FPPA states that "farmland" does not include land already in or committed to urban development or water storage.

Agricultural land further west towards the Great Salt Lake is likely not prime, unique, or locally important because this land would most likely be of a soil type that is not supported by the FPPA. However, coordination with the Natural Resources Conservation Service would occur when identifying potential environmental impacts due to any action alternatives.

From the 200/700 South Corridor Preservation Study, for the Cities of Clearfield, Syracuse, and West Point; Davis County, and Wasatch Front Regional Council, an Agricultural Protection Zone has been established in the area between 1000 West and 2000 West along 200 South (shown on Figure 3). This zone would safeguard the property from development and is owned and operated by the Church of Jesus Christ of Latter Day Saints and Cook Family Farms.

5. Hazardous Materials

A search of the State of Utah Automated Geographic Reference Center (AGRC) electronic database was conducted and reviewed for the I-15 Corridor Plan, Kaysville to Ogden study area. The objective of the search and review was to identify and describe recognized environmental conditions associated with the present and historical uses of the properties located within the project corridor. A recognized environmental condition is defined in the American Society for Testing and Materials (ASTM) Practice E 1527-00 as follows:

> "The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property."

The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions termed *de minimis* are not recognized environmental conditions.

The assessment identified the following potential areas of concern within the study area, as shown on Figure 4:

- 12 EPA Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) sites, (referred to as Superfund sites); and
- 289 potential environmental condition sites (Leaking Underground Storage Tank (LUST)) sites.

The 12 EPA CERCLA sites in the project study area are centered in areas close to I-15. Five sites are located in the Freeport Center, three sites are located in the railroad area east of Ogden-Hinckley Municipal Airport (OHMA), one site is located to the north of OHMA, one site is located south of OHMA, one site is located on Hill Air Force Base and one site is located just west of Fort Lane and north of the Davis-Weber canal in Layton.

The 289 potential environmental condition sites include various businesses that may or may not result in petroleum-related or hazardous material-related contamination of the immediate and/or surrounding areas they occupy. Such sites include oil refineries, automobile repair shops, trucking companies, gas stations, and light industrial sites. These sites are scattered throughout the study area.

6. Noise

The Federal Highway Administration (FHWA) has developed a set of noise level guidelines, which should not be exceeded, for various land use areas. These land use areas, called Noise Abatement Criteria Activity Categories (NAC), are described in Table 1. All sound levels are in units of decibel (dB) and are A-weighted. The "A" indicates that the sound has been filtered to reduce the strength of very low and very high frequency sounds, much as the human ear would hear. On the average, each A-weighted sound level increase of 10 dB corresponds to an approximate doubling of subjective loudness.

Table 1. Noise Abatement Criteria Hourly A-weighted Sound Level (dBA)

Activity Category	Leq(h)	L10(h)	Description of Activity Category
A	57 (exterior)	60 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	70 (exterior)	Picnic areas, recreational areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	75 (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	None	None	Undeveloped lands.
E	52 (interior)	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: UDOT, 2000

The L_{eq} describes the receiver's cumulative noise exposure from all events over a one-hour period. L_{10} is the sound level that is exceeded 10 percent of the time. Traffic noise has the potential of impacting daily activities and the quality of life for people living near streets and highways. Traffic noise levels depend

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Figure 4. Hazardous Sites

- Superfund Site
- LUST Open Site
- LUST Site

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on traffic volume, traffic speed, and the type of traffic. Vehicle noise is produced by the engine, exhaust, and tires. Factors such as vegetation, terrain, and obstacles can also affect the level of traffic noise. According to the FHWA noise guidelines, traffic noise is typically not a problem for people living more than 500 feet from heavily traveled freeways or more than 100 to 200 feet from lightly traveled roads. If a project causes a significant increase in the future noise level over the existing noise level, it is also considered to have an impact.

Scattered throughout the project study area are noise sensitive land uses, such as schools, churches, hospitals, lodging facilities, parks, recreation centers, libraries, and residences. When considering impacts of an action alternative, depending on the specific attributes of that alternative, a noise study analysis may be required. Possible mitigation strategies and locations for mitigation actions would be identified in the noise study analysis.

One noise mitigation strategy is to erect noise barriers along transportation corridors undergoing enhancement activities. UDOT's Noise Policy identifies procedures to fulfill when considering the placement of noise walls. If transportation improvement alternatives were selected in the future, mitigation strategies, including the use of noise walls, would be in accordance with the current UDOT Noise Policy at the time such mitigation strategies are identified.

7. Recreation Resources

Recreation resources in the study area include public schools and several city, county, and/or community parks/recreation centers.

The project study area is served by 3 school districts: 1) Davis, 2) Ogden, and 3) Weber. Each of these school districts administers elementary, middle, and high schools within the project study area. A search of the State of Utah Automated Geographic Reference Center electronic database showed there are approximately 45 schools scattered throughout the project study area. This number includes any charter schools that may exist.

As shown in Figure 5, there are 33 park and recreation sites and 12 trails located within and in the vicinity of the study area. The trails identified in Figure 5 are interconnected, resulting in an extensive trail system. Since they are interconnected, some subjectivity is present in tabulating of the number of trails.

8. Section 4(f) Resources

Under Section 4(f) of the U.S. Department of Transportation Act of 1966 Transportation Act, Section 4(f) properties consist of:

- Publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or
- Land of an historic site of national, state, or local significance.

Recreational Properties

Significance is determined by the federal, state, or local officials having jurisdiction over the park, area, refuge or site. Upon analysis of specific alternatives, the status of recreational 4(f) resources along each proposed alternative will be determined.

Historic Properties

Section 4(f) historic properties are any historic or cultural sites that are listed on, or eligible for listing on, the National Register of Historic Places (NRHP). The Cultural Resources section of this report lists the architectural resources in the study area that are most likely eligible to be listed, or are listed, on the

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Figure 5. Trails and Park and Recreation Sites

Park and Recreation Sites

Trail - Pedestrian/Bike

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NRHP. Upon analysis of specific alternatives, the status of recreational 4(f) resources along each proposed alternative will be determined.

Wildlife and Waterfowl Refuges

No official federal wildlife or waterfowl refuges are located in the project study area.

Several waterfowl management areas are located along the Great Salt Lake shoreline. These are managed by either the State of Utah or private organizations. The numerous wetlands in this area provide habitat for many waterfowl and shorebird species.

The Western Hemisphere Shorebird Reserve Network (WHSRN) has designated the Great Salt Lake as a Hemispheric Site. WHSRN is a voluntary collaboration of over 140 government and private organizations that are committed to shorebird conservation. The Great Salt Lake is recognized as a hemispheric site because it supports over two million shorebirds as well as at least 3½- million waterfowl species.

State and Federal Parks

No official state or federal parks are located in the project study area; however, SR-108/SR-127, Syracuse Road-Antelope Drive, which is the main access road to Antelope Island State Park, is located in the project study area. Transportation improvements are currently being made on this road.

9. Section 6(f) Resources

Section 6(f) properties are public recreational properties acquired or developed using funds from the Land and Water Conservation Fund Act (LWCFA) of 1964. The LWCFA was enacted by Congress to provide money to federal, state, and local governments to purchase lands for maintaining or enhancing recreational opportunities, clean water, wildlife habitat, scenic resources, historic sites, and wilderness areas. Section 6(f) of this act provides special protection for property purchased with LWCFA money, and prohibits the conversion of such lands to non-recreational purposes unless the National Park Service (NPS) has given approval, and the NPS has assured that replacement lands of equal value, location, and usefulness are provided to mitigate conversions of these lands for highway use.

Coordination with the Utah Division of Parks and Recreation and the NPS, if necessary, will occur when identifying 6(f) resources in the study area and the potential impacts to 6(f) resources upon further development of alternatives.

10. Socioeconomics

Socioeconomic resources are addressed in the Community Characteristics Memo.

11. Water Resources and Floodplains

Water Resources

Water resources include surface water bodies such as lakes, ponds, rivers, streams, and underground water bodies and courses such as underground rivers and aquifers. Surface water resources are also usually associated with floodplains and the areas adjacent to surface water bodies that are subject to inundation during periods of high water.

There are several continually present surface water bodies located in the eastern portion of the project study area. A series of canals and streams channel water from the Wasatch Mountains and storm water from surface runoff to two major natural drainages: the Weber River, located in the northeastern portion of the project study area, and Kays Creek, located in the southeastern portion of the project study area. The Weber River generally flows westward along Interstate I-84, then north along I-15 outside of the

study area. It eventually flows westward to the Great Salt Lake north of the project study area. Kays Creek flows from Layton southwesterly into the Great Salt Lake. Reservoirs established along rivers hold water for consumptive uses, including potable and irrigation uses. Another major drainage channel is the Davis-Weber Canal, which runs from Church Street, along I-15, and leaves the study area to the north.

Groundwater

The project study area is underlain by both the shallow and deep aquifers. Drinking water is obtained from the deep aquifer. Groundwater in the Great Salt Lake Valley generally moves from recharge areas at high altitudes, along the foothills of the mountains, to discharge areas at lower altitudes. In the project study area, groundwater generally originates along the eastern benches and flows generally west towards the Great Salt Lake.

There are several diversion points for groundwater rights in the study area. Uses for the majority of these water rights include various combinations of irrigation, domestic, stock watering, and industrial purposes.

Floodplains

Due to the channelization and control of surface water, major floodplains are limited in the study area. Some floodplain areas exist in the eastern portion of the project study area, around reservoirs and some rivers. Most rivers, due to past development, have been controlled and are managed by drainage systems.

12. Wetlands

Numerous wetland areas exist in the western portion of the study area, as shown on Figure 6. While most wetland areas are situated along the fluctuating Great Salt Lake shoreline, wetland areas are also centered in the Midland Drive area of West Haven and along the Weber River. Official delineations of these wetland areas are possibly outdated (delineations are valid for up to five years) and any potential development in these areas would most likely require a wetlands delineation and coordination with the U.S. Army Corps of Engineers. The existing data was obtained from the Utah Automated Geographic Reference Center, which lists the National Wetlands Inventory as the source of wetlands information.

13. Wildlife

Wildlife habitat within the study area consists of wetland/marshland habitat along the shoreline of the Great Salt Lake, agricultural land in the western portion of the study area, isolated wetland areas scattered throughout the study area, wetland/riparian/riverine habitats along the drainages in the eastern portion of the study area (especially Weber River and Kays Creek, riparian/wetland and lake habitats at the reservoirs in the eastern portion of the study area, and foothill/montane habitats in the far eastern portion of the study area. With the exception of the extensive wetland/marshland habitats along the Great Salt Lake shoreline and the habitats along the Weber River and Kays River, wildlife habitat is generally broken up by development throughout the study area.

The Western Hemisphere Shorebird Reserve Network (WHSRN) has identified the Great Salt Lake as a Hemispheric Site. The WHSRN is “a voluntary collaboration of over 140 government and private organizations that are committed to shorebird conservation.” According the WHSRN, the Great Salt Lake serves as a crucial stopover and resting point for shorebirds migrating between the northern Great Plains States/Canada and South America and has been identified as a sister reserve to Laguna del Mar Chiquita in Argentina. Along the Great Salt Lake shoreline within the study area, several waterfowl and/or wildlife management areas exist. Administration of these areas is the responsibility of the State of Utah and/or one or several private organizations. In addition to shorebirds, the Great Salt Lake habitat receives frequent waterfowl use. The Migratory Bird Treaty Act protects shorebirds and waterfowl, as well as other migrating birds.

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Figure 6. Wetlands and Hydrology

- Lacustrine
- Palustrine
- Riverine

Wetlands delineated by the National Wetlands Inventory (NWI) conducted by the U. S. Fish and Wildlife Service (USFWS)

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The Weber River, Kays Creek, and other drainages provide habitat for aquatic species, mammals, and avian species.

An overview of the Utah State Division of Wildlife Resources (UDWR) database of sensitive species resulted in the following federal and state-identified species of special concern located within Davis and Weber Counties. It should be noted that not all species would be present within the study area because suitable habitat does not exist for each of these species within the study area. More specific data will be provided by the UDWR for use in identifying potential impacts caused by alternatives.

Davis County:

- American White Pelican, State Species of Special Concern (SPC)
- Bald Eagle, federally listed under the Endangered Species Act (ESA)
- Bluehead Sucker, candidate species (CS)
- Bobolink, SPC
- Bonneville Cutthroat Trout, CS
- Burrowing Owl, SPC
- Columbia Spotted Frog, CS
- Ferruginous Hawk, SPC
- Grasshopper Sparrow, SPC
- Kit Fox, SPC
- Least Chub, CS
- Lewis's Woodpecker, SPC
- Long-billed Curlew, SPC
- Short-eared Owl, SPC
- Townsend's Big-eared Bat, SPC
- Western Pearlshell, SPC
- Western Toad, SPC
- Yellow-billed Cuckoo, ESA

Weber County:

- American White Pelican, SPC
- Bald Eagle, ESA
- Bluehead Sucker, CS
- Bobolink, SPC
- Bonneville Cutthroat Trout, CS
- Burrowing Owl, SPC
- Columbia Spotted Frog, CS
- Deseret Mountainsnail, SPC
- Ferruginous Hawk, SPC
- Grasshopper Sparrow, SPC
- Gray Wolf, ESA
- Greater Sage Grouse, SPC
- June Sucker, ESA
- Kit Fox, SPC
- Lewis's Woodpecker, SPC
- Long-billed Curlew, SPC

- Lyrate Mountainsnail, SPC
- Northern Goshawk, CS
- Sharp-tailed Grouse, SPC
- Short-eared Owl, SPC
- Townsend's Big-eared Bat, SPC
- Wasatch Mountainsnail, ESA
- Yellow-billed Cuckoo, ESA

Throughout the study area, there may be other wildlife values. Migratory birds and small mammals may be found throughout the study area. Such locations may be valuable wildlife resources and should be more accurately assessed to determine prevalence.